

Application No. 08/756,257

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IN THE CLAIMS

6. (Presently Amended) An apparatus comprising:
a surgical tool having a tool reference frame;
means mounted to the tool for indicating to a human a difference between an actual
and a desired position of the tool; and

computing means for determining an actual position of the means for indicating,
wherein the tool includes proximal and distal ends and the means for indicating comprises a
plurality of selectively operable human visible indicators for indicating a direction in which
the distal end should be translated to reach the desired position, said plurality of position
indicators disposed at angular intervals so as to surround a central point.

36. (Presently Amended) An apparatus comprising:
a tool for use in connection with surgery;
computing means for determining a position of the tool relative to a desired position
of the tool; and

a display disposed on the tool for indicating differences between the position of the
tool and the desired position of the tool, wherein said differences are indicated with respect to
the tool.

37. (Presently Amended) An apparatus, comprising:
a surgical tool;
computing means for determining a position of the surgical tool; and
a display mounted on the surgical tool for visually indicating a direction in which the
display should be moved for the surgical tool to reach a desired position.

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38. (Previously Added) The apparatus of claim 37, wherein the display includes a plurality of position indicators disposed at angular intervals so as to surround a central point.

39. (Presently Amended) A method for guiding the movement of a surgical tool, said method comprising:

~~tracking~~ computing an actual position of a surgical tool with reference to a patient's anatomy;

determining a direction in which said surgical tool must be moved from ~~an~~ the actual position to reach a desired position with respect to the patient, the desired position being indicated with reference to a diagnostic image of the patient; and

indicating on a display disposed on said surgical tool the direction in which the tool must be moved from said actual position to reach said desired position, wherein said indication is provided with reference to a reference frame of said surgical tool.

40. (Previously Added) The method of claim 39, wherein said tool reference frame is defined such that the origin of said tool reference frame is at the tip of said surgical tool, wherein said tool reference frame has an axis substantially collinear with a pointing axis of said surgical tool.

41. (Presently Amended) An apparatus, comprising:
a hand-held surgical tool operable to be inserted into a patient;
a tool position tracker for ~~tracking~~ computing a position of said hand-held tool with respect to a reference frame; and

DRAFT
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Application No. 08/756,257

**DRAFT
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a display mounted on said hand-held surgical tool for visually indicating a direction in which said display mounted on said tool should be moved to reach a desired position for said hand-held surgical tool based at least in part on said position of said tool as determined by said tool position tracker, wherein said direction is provided with reference to a reference frame of said hand-held surgical tool.

42. (New) An apparatus, comprising:
- a tracking system for tracking a position of a surgical tool;
 - computing means for determining a direction the tool should be moved for the tool to reach a desired position; and
 - a display mounted on the tool for visually indicating the direction the tool should be moved to reach the desired position.

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